

# SEQUENCE LISTING

<110> Zhu, Zhenping

<120> Bispecific Immunoglobulin-Like Antigen Binding Proteins and Method of Production

<130> 11245/47102

<140> filed concurrently herewith

<141> 2001-05-24

<150> US 60/206,749

<151> 2000-05-24

<160> 34

<170> WordPerfect 8.0 for Windows

<210> 1

<211> 10

<212> PRT

<213> Mouse

<400> 1

Gly Phe Asn Ile Lys Asp Phe Tyr Met His  
1 5 10

<210> 2

<211> 17

<212> PRT

<213> Mouse

<400> 2

Trp Ile Asp Pro Glu Asn Gly Asp Ser Gly Tyr Ala Pro Lys Phe Gln  
1 5 10 15

Gly  
17

<210> 3

<211> 8

<212> PRT

<213> Mouse

<400> 3

Tyr Tyr Gly Asp Tyr Glu Gly Tyr  
1 5

<210> 4

<211> 10

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<400> 4

Ser Ala Ser Ser Ser Val Ser Tyr Met His  
1 5 10

<210> 5

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<400> 5

Ser Thr Ser Asn Leu Ala Ser  
1 5

<210> 6  
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<400> 6

Gln Gln Arg Ser Ser Tyr Pro Phe Thr  
1 5

<210> 7  
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<213> Mouse

<400> 7

Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Gly Ser Gly Ala  
1 5 10 15

Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Phe  
20 25 30

Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile  
35 40 45

Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Gly Tyr Ala Pro Lys Phe  
50 55 60

Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Ser Asn Thr Ala Tyr  
65 70 75 80

Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95

Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr  
100 105 110

Val Thr Val Ser Ser  
115

<210> 8  
<211> 108  
<212> PRT  
<213> Mouse

<400> 8

Asp Ile Glu Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Pro Gly  
1 5 10 15

Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met  
20 25 30

Variable	Mean	SD	Min	Max
Age	34.5	10.2	21	55
Gender	Male	10.5	0	21
Marital status	Married	15.2	0	21
Education	High school	12.8	0	21
Occupation	Unemployed	18.5	0	21
Income	Low	14.3	0	21
Health status	Good	16.7	0	21
Stress level	High	19.1	0	21
Life satisfaction	Low	13.9	0	21
Depression	Severe	17.4	0	21
Anxiety	High	18.8	0	21
Substance use	Alcohol	15.6	0	21
Smoking	Smoker	12.1	0	21
Exercise	Regular	10.3	0	21
Diet	Healthy	11.7	0	21
Sleep	Good	14.5	0	21
Work-life balance	Low	13.2	0	21
Family support	Low	12.9	0	21
Community support	Low	11.5	0	21
Healthcare access	Low	10.8	0	21
Financial stability	Low	12.4	0	21
Education level	High school	12.8	0	21
Occupational status	Unemployed	18.5	0	21
Income level	Low	14.3	0	21
Health status	Good	16.7	0	21
Stress level	High	19.1	0	21
Life satisfaction	Low	13.9	0	21
Depression	Severe	17.4	0	21
Anxiety	High	18.8	0	21
Substance use	Alcohol	15.6	0	21
Smoking	Smoker	12.1	0	21
Exercise	Regular	10.3	0	21
Diet	Healthy	11.7	0	21
Sleep	Good	14.5	0	21
Work-life balance	Low	13.2	0	21
Family support	Low	12.9	0	21
Community support	Low	11.5	0	21
Healthcare access	Low	10.8	0	21
Financial stability	Low	12.4	0	21

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30

<400> 10

51

<400> 11

24

<400> 12

30

<400> 13

21

<210> 14  
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<212> DNA  
<213> Mouse

<400> 14

cagcaaagga gtagttaccc attcacg

27

<210> 15  
<211> 351  
<212> DNA  
<213> Mouse

<400> 15

caggtcaagc	tgcagcagtc	tggggcagag	cttgtggggt	caggggcctc	agtcaaattg	60
tcctgcacaa	cttctggctt	caacattaata	gacttctata	tgcactgggt	gaagcagagg	120
cctgaacagg	gcctggagtg	gattgggatg	attgatcctg	agaatgggtga	ttctgggttat	180
gccccgaagt	tccagggcaa	ggccaccatg	actgcagact	catcctccaa	cacagcctac	240
ctgcagctca	gcagcctgac	atctgaggac	actgccgtct	attactgtaa	tgcatactat	300
ggtgactacg	aaggctactg	gggccaaagg	accacggtca	ccgtctcctc	a	351

<210> 16  
<211> 324  
<212> DNA  
<213> Mouse

<400> 16

gacatcgagc	tcactcagtc	tccagcaatc	atgtctgcat	ctccagggga	gaaggtcacc	60
ataacctgca	gtgccagctc	aagtgtgaagt	tacatgcact	ggttccagca	gaagccaggc	120
acttctccca	aactctggat	ttatagcaca	tccaacctgg	cttctggagt	ccctgctcgc	180
ttcagtggca	gtggatctgg	gacctcttac	tctctcacia	tcagccgaat	ggaggctgaa	240
gatgctgcca	cttattactg	ccagcaaagg	agtagttacc	cattcacgtt	cggctcgggg	300
accaagctgg	aaataaaacg	ggcg				324

<210> 17  
<211> 15  
<212> PRT  
<213> Mouse

<400> 17

Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser
1				5					10					15

<210> 18  
<211> 45  
<212> DNA  
<213> Mouse

<400> 18

ggtggaggcg gttcaggcgg aggtggctct ggcgggtggcg gatcg

45

<210> 19  
<211> 10  
<212> PRT

<213> Mouse

<400> 19

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser  
1 5 10

<210> 20

<211> 15

<212> DNA

<213> Mouse

<400> 20

ggtggaggcg gttca

15

<210> 21

<211> 17

<212> PRT

<213> Mouse

<400> 21

Trp Ile Asp Pro Glu Asn Gly Asp Ser Asp Tyr Ala Pro Lys Phe Gln  
1 5 10 15

Gly  
17

<210> 22

<211> 117

<212> PRT

<213> Mouse

<400> 22

Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Gly Ser Gly Ala  
1 5 10 15

Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Phe  
20 25 30

Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile  
35 40 45

Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Asp Tyr Ala Pro Lys Phe  
50 55 60

Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Ser Asn Thr Ala Tyr  
65 70 75 80

Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95

Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr  
100 105 110

Val Thr Val Ser Ser  
115

<210> 23

<211> 106  
 <212> PRT  
 <213> Mouse

<400> 23

Asp	Ile	Glu	Leu	Thr	Gln	Ser	Pro	Ala	Ile	Met	Ser	Ala	Ser	Pro	Gly
1				5					10					15	
Glu	Lys	Val	Thr	Ile	Thr	Cys	Ser	Ala	Ser	Ser	Ser	Val	Ser	Tyr	Met
			20					25					30		
His	Trp	Phe	Gln	Gln	Lys	Pro	Gly	Thr	Ser	Pro	Lys	Leu	Trp	Ile	Tyr
		35					40					45			
Ser	Thr	Ser	Asn	Leu	Ala	Ser	Gly	Val	Pro	Ala	Arg	Phe	Ser	Gly	Ser
	50					55					60				
Gly	Ser	Gly	Thr	Ser	Tyr	Ser	Leu	Thr	Ile	Ser	Arg	Met	Glu	Ala	Glu
65					70					75				80	
Asp	Ala	Ala	Thr	Tyr	Tyr	Cys	Gln	Gln	Arg	Ser	Ser	Tyr	Pro	Phe	Thr
				85					90					95	
Phe	Gly	Ser	Gly	Thr	Lys	Leu	Glu	Ile	Lys						
			100					105							

<210> 24  
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 <212> DNA  
 <213> Mouse

<400> 24

tggattgatc ctgagaatgg tgattctgat tatgccccga agttccaggg c 51

<210> 25  
 <211> 351  
 <212> DNA  
 <213> Mouse

<400> 25

cagggtcaagc	tgcagcagtc	tggggcagag	cttgtgggggt	caggggcctc	agtcaaattg	60
tcctgcacaa	cttctggctt	caacattaaa	gacttctata	tgcactgggt	gaagcagagg	120
cctgaacagg	gcctggagtg	gattggatgg	attgatcctg	agaatgggtg	ttctgattat	180
gccccgaagt	tccagggcaa	ggccaccatg	actgcagact	catcctccaa	cacagcctac	240
ctgcagctca	gcagcctgac	atctgaggac	actgccgtct	attactgtaa	tgcatactat	300
ggtgactacg	aaggctactg	gggccaaggg	accacgggtc	ccgtctcctc	a	351

<210> 26  
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 <212> DNA  
 <213> Mouse

<400> 26

gacatcgagc	tcaactcagtc	tccagcaatc	atgtctgcat	ctccagggga	gaaggtcacc	60
ataacctgca	gtgccagctc	aagtgtaaat	tacatgcact	ggttccagca	gaagccaggg	120
acttctccca	aactctggat	ttatagcaca	tccaacctgg	cttctggagt	ccctgctcgc	180
ttcagtggca	gtggatctgg	gacctcttac	tctctcacia	tcagccgaat	ggaggctgaa	240
gatgctgcc	cttattactg	ccagcaaagg	agtagttacc	cattcacgtt	cggctcgggg	300

accaagctgg aaataaaa

318

<210> 27  
<211> 240  
<212> PRT  
<213> Mouse

<400> 27

Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Gly Ser Gly Ala  
1 5 10 15

Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Phe  
20 25 30

Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile  
35 40 45

Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Gly Tyr Ala Pro Lys Phe  
50 55 60

Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Ser Asn Thr Ala Tyr  
65 70 75 80

Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95

Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr  
100 105 110

Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly  
115 120 125

Gly Gly Gly Ser Asp Ile Glu Leu Thr Gln Ser Pro Ala Ile Met Ser  
130 135 140

Ala Ser Pro Gly Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser  
145 150 155 160

Val Ser Tyr Met His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys  
165 170 175

Leu Trp Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg  
180 185 190

Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg  
195 200 205

Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Ser Ser  
210 215 220

Tyr Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Arg Ala  
225 230 235 240

<210> 28  
<211> 238  
<212> PRT  
<213> Mouse

<400> 28

Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Gly Ser Gly Ala  
1 5 10 15

Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Phe  
                     20                    25                    30  
 Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile  
                     35                    40                    45  
 Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Asp Tyr Ala Pro Lys Phe  
                     50                    55                    60  
 Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Ser Asn Thr Ala Tyr  
                     65                    70                    75                    80  
 Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
                     85                    90                    95  
 Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr  
                     100                    105                    110  
 Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly  
                     115                    120                    125  
 Gly Gly Gly Ser Asp Ile Glu Leu Thr Gln Ser Pro Ala Ile Met Ser  
                     130                    135                    140  
 Ala Ser Pro Gly Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser  
                     145                    150                    155                    160  
 Val Ser Tyr Met His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys  
                     165                    170                    175  
 Leu Trp Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg  
                     180                    185                    190  
 Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg  
                     195                    200                    205  
 Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Ser Ser  
                     210                    215                    220  
 Tyr Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys  
                     225                    230                    235

<210> 29  
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 <213> Artificial Sequence

<220>

<223> Synthetic primer

<400> 29

ctagtagcaa ctgccaccgg cgtacattca caggtcaagc tgc

43

<210> 30  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence

<220>

<223> Synthetic primer



<400> 30

tcgaaggatc actcaccttt tatttccagc

30

<210> 31

<211> 52

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic primer

<400> 31

gggtcaaaagc ttatggggat gggtcatgtat catccttttt ctagtagcaa ct

52

<210> 32

<211> 36

<212> DNA

<213> Artificial Sequence

<220>

<223> Signal

<400> 32

tcgatctaga aggatccact cacgttttat ttccag

36

<210> 33

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> leader peptide

<400> 33

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly  
5 10 15

Val His Ser  
19

<210> 34

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic primer

<400> 34

tctcggccgg cttaagctgc gcatgtgtga gt

32